

Regenerating Oak on High-quality Sites: Midstory Removal

Tennessee Department of Agriculture Division of Forestry

Regenerating oak on highly productive sites poses a problem because faster-growing species, especially yellow poplar, overtop and shade the oak seedlings and sprouts.

Oaks will tolerate shade for the first 10 years or so of life, but if they remain in the shade they will become stunted or die.

The first step in regenerating oak on good sites is to ensure that oak seedlings and sprouts are already present. The next step is to remove the understory so that enough light is let through to allow these seedlings to grow vigorously, but not so much light that poplar and other competitors sprout and take over. The understory is composed of trees whose tops do not reach the height of the main canopy. Species often include red maple, dogwood, hickory, hornbeam, blackgum, and beech.

Do not remove any trees from the main canopy. This would let in too much light and encourage unwanted competition. Likewise, do not remove any understory tree that would uncover a gap in the overhead canopy.

Understory trees should be killed with herbicide applied by frilling or by basal streamlining. To frill, chop around the tree trunk and apply herbicide to the wounds. Use Arsenal or other appropriate herbicide (see TDF information sheet "Hack and Squirt"). Basal streamlining is spraying a stream of appropriate ground-active herbicide around the base of the tree.

Overstory trees are removed in one or more cuttings once the oak gets big enough to stay ahead of competing seedlings. This is usually five to ten years after understory removal, when the seedlings are about ten feet tall.